

Incidentally, as for the Tm^{3+} -doped fluoride fiber using the 1.2 μm band excitation, there have been no reports. However, 1.9 μm band laser oscillation by a Tm-Ho codoped fiber into which both Tm^{3+} and holmium (Ho) are doped is reported (see, non-patent document 3). The report, however, neither utilizes the laser transition of Tm^{3+} from the $^3\text{H}_4$ to $^3\text{H}_6$ [$^3\text{H}_5$] level, nor relates to the 2.3 μm band.

Please amend the abstract at the end of the application as follows:

ABSTRACT

New fiber lasers, spontaneous emission sources, and optical fiber amplifiers are provided. Their conventional counterparts, which have a fiber doped with thulium (Tm) ions and excited by 0.67 μm or 0.8 μm pumping light, have a problem in that their characteristics are deteriorated with the elapse of time. The new fiber lasers, spontaneous emission sources, and optical fiber amplifiers use 1.2 μm light as pumping light. Alternatively, they use a pumping source for exciting the thulium from the lowest energy level $^3\text{H}_6$ to $^3\text{H}_5$ excitation level. As a more preferable configuration, they improve the emission efficiency at 2.3 μm band by disclosing ~~defining~~ Tm-doped host glass.